In the Claims:

Please cancel claims 1-34. Please add the following claims:

35. Complexes of nucleic acid and polyethyleneimine (PEI), characterised in that the PEI is modified with a hydrophilic polymer covalently coupled thereto.

36. Complexes according to claim 35, characterised in that the nucleic acid is DNA and the ratio of DNA to PEI, expressed by the molar ratio of the nitrogen atoms in the PEI to the phosphate atoms in the DNA (N/P value), is about 0.5 to about 100.

37. Complexes according to claim 36, characterised in that the N/P value is about 2 to about 20.

38. Complexes according to claim 37, characterised in that the N/P value is about 3 to about 10.

39. Complexes according to claim 35, characterised in that the PEI has a molecular weight of about 700 D to about 2,000,000 D.

40. Complexes according to claim 39, characterised in that the PEI has a molecular weight of about 2,000 D to about 800,000 D.

41. Complexes according to claim 35, characterised in that the hydrophilic polymer is linear.

42. Complexes according to claim 35, characterised in that the hydrophilic polymer is selected from the group of polyethylene glycols (PEG), polyvinylpyrollidones, polyacrylamides, polyvinylalcohols, or copolymers thereof.

43. Complexes according to claim 42, characterised in that the hydrophilic polymer is PEG.

44. Complexes according to claim 42, characterised in that the molecular weight of the hydrophilic polymer is about 500 D to about 20,000 D.

45. Complexes according to claim 44, characterised in that the molecular weight of the hydrophilic polymer is about 1,000 to about 10,000 D.

46. Complexes according to claim 35, characterised in that the molar ratio of polymer:primary amino groups/PEI is about 1:10 to about 10:1.

47. Complexes according to claim 46, characterised in that the ratio is about 1:5 to about 5:1.

48. Complexes according to claim 47, characterised in that the ratio is about 1:3 to about 1:1.

49. Complexes according to claim 35, characterised in that PEI is modified with a cellular ligand.

50. Complexes according to claim 49, characterised in that the ligand is transferrin.

51. Complexes according to claim 49, characterised in that the ligand is EGF.

52. Complexes according to claim 49, characterised in that PEI is bound to the ligand via the hydrophilic polymer.

53. Complexes according to claim 35, characterised in ~~that they contain, as the nucleic acid,~~ a therapeutically ~~active~~ nucleic acid.

54. Complexes according to claim 53, characterised in that the ~~therapeutically active nucleic acid~~ codes for one or more cytokines.

55. Complexes according to claim 53, characterised in that the therapeutically active nucleic acid codes for one or more tumor antigens or fragments thereof.

56. Complexes according to claim 53, characterised in that the therapeutically active nucleic acid is a suicide gene.

57. Complexes according to claim 56, characterised in that the suicide gene is the Herpes Simplex thymidine kinase gene.

58. Process for preparing complexes according to claim 35, characterised in that first DNA and PEI, optionally modified with a cellular ligand, are complexed by mixing the dilute solutions and then the hydrophilic polymer is bound to PEI.

59. Process according to claim 58, characterised in that the DNA concentration is about 5 to 50 μg of DNA/ml.

60. Process according to claim 59, characterised in that the DNA concentration is about 10 to 40 μg of DNA/ml.

61. Process according to claim 59, characterised in that the complexing is carried out at a salt concentration below the physiological value.

62. Process according to claim 61, characterised in that the complexing is carried out in deionised water.

63. Preparation process according to claim 58, characterised in that after the complexing of DNA and optionally modified PEI, the complexes of the dilute solution are adjusted to a concentration of about 200 μg/ml to 1 mg/ml, based on DNA.

64. Composition for the transfection of mammalian cells, characterised in that it contains one or more complexes according to claim 35 in a concentration of 200 μg/ml to 1 mg/ml, based on DNA.

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65. Pharmaceutical composition containing one or more complexes according to claim 53.

66. Pharmaceutical composition according to claim 65, characterised in that it contains the complexes in a concentration of about 200 μg/ml to about 1 mg/ml, based on DNA.

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67. Pharmaceutical composition according to claim 65, characterised in that the complexes contain DNA which codes for one or more cytokines.

68. Pharmaceutical composition according to claim 65 in the form of a tumour vaccine, characterised in that the complexes contain DNA which codes for one or more tumour antigens or fragments thereof, optionally combined with DNA which codes for one or more cytokines. --

Remarks

The specification has been amended to correct simple typographical errors. These errors would have been readily apparent to one of ordinary skill in the art.

Upon entry of the foregoing amendment, claims 35-68 are pending in the application, with claim 35 being the sole independent claim. Claims 1-34 are sought to be cancelled without prejudice to or disclaimer of the subject matter therein. New claims 35-68 are sought to be added. Support for these claims are found throughout the specification, for example, in